Abstract: A surface inspection system includes a beam source subsystem, a beam scanning subsystem, a workpiece movement subsystem, an optical collection and detection subsystem, and a processing subsystem. The processing subsystem has a channel formation capability for forming selected channels and developing channel output associated with each selected channel, with the channel output developed from collector output associated with at least one collection and detection module. Also, a spherical defect channel is described for detection of small spherical objects and defects with like geometries, using scattered light observed by the back collector output and P-polarized scattered light observed by wing collectors.
(88) Date of publication of the international search report:
9 April 2009
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
   IPC: G01N 21/00 (2006.01)

   USPC: 356/237.2
   According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

   Minimum documentation searched (classification system followed by classification symbols)
   U.S.: 356/237.2-237.5

   Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

   Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

   Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No.
   X | US 6,292,239 B1 (Fossey et al.) 18 September 2001 (18.09.2001), see abstract; col. 1, lines 40-coll. 3, line 9; column 6, lines 50-coll. 10, line 64; col. 14, lines 54-coll. 15, line 35; | 1-5

   Further documents are listed in the continuation of Box C. See patent family annex.

   * Special categories of cited documents:
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     "E" earlier application or patent published on or after the international filing date
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     "O" document referring to an oral disclosure, use, exhibition or other means
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   Date of the actual completion of the international search: 21 February 2008 (21.02.2008)
   Date of mailing of the international search report: 10 MAR 2008

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